

# PHYSICAL PROPERTIES SHEET



**PHASECHANGE**  
energy solutions

**PRODUCT NAME:** BioPCM™ - 27Q M51  
**MANUFACTURER:** Phase Change Energy Solutions  
120 East Pritchard Street  
Asheboro, NC

For questions regarding this product, first call [1-800-283-7887](tel:1-800-283-7887)  
If it is an emergency and there is no response, please contact the following:  
**For emergencies in the US and Canada**, call CHEMTREC day or night at [800-424-9300](tel:800-424-9300)  
**For emergencies outside the US and Canada** call CHEMTREC day or night at [703-527-3887](tel:703-527-3887)

**TELEPHONE:** 336-629-3000  
**FAX:** 336-629-3100

| COMPONENT | DESCRIPTION   | VALUES (ENGLISH)  | VALUES (METRIC)   |
|-----------|---|---|---|
| Film      | multilayer white polyfilm   | 14 mil  | .3556 mm  |
| Pocket    | formed white polyfilm pocket  | 22.5 ct 1.3"x 1.3" x .5"<br>BioPCM® filled pods per sq. ft. | 22.5 ct 33mm x 33mm x 12mm<br>BioPCM® filled pods per sq. ft. |
| BioPCM®   | Proprietary Blend of Emulsifiers, Gelling agents, Fatty Acids, Fatty Alcohols, Fatty Esters, and their derivatives. | .56 lbs phase change materials per sq. ft.                  | 2.73 kilograms per sq. meter                                  |

| PHYSICAL PROPERTIES  | TEST METHOD | VALUES (ENGLISH)              | VALUES (METRIC)       |
|----------------------|-------------|-------------------------------|-----------------------|
| M-Value              | ASTM        | 51 BTU per sq. ft.            | 549 BTU per sq. meter |
| Melt Point           | DSC         | 80.6° Fahrenheit              | 27° Celsius           |
| Specific Heat        | DSC         | 0.9-1.1 BTU/lb                | ~2.1-2.5 kj/kg        |
| Latent Heat          | DSC         | ~86 btu/lb                    | ~200 j/g              |
| Thermal Conductivity | DSC         | ~0.05-0.07 W/ft/K             | ~0.18-0.22 W/m/K      |
| Boiling Point        | Thermometer | Greater than 478° F           | Greater than 248° C   |
| Dimensions           | Ruler       | 17" x 46.625"                 | 432mm X 1184mm        |
| Total Unit Thickness | Micrometer  | .50" to .56"                  | 12mm to 14mm          |
| Weight               | Scale       | .77 lbs per sq. ft.           | 3.76 kg per sq. meter |
| Permability          | ASTM E96    | 0.09<br>(grains/hr*ft²*in Hg) | 5.175 ng / N's        |

| FIRE TESTING      | ASTM E84 | UL 723 | ASTM E800 -0 |
|-------------------|----------|--------|--------------|
| Flame Spread      | 140      | 140    | passed       |
| Smoke Development | 350      | 350    |              |